

What is claimed is:

1. A method for use in a policy-based management system comprising the steps of:

selecting a prescribed quality of service goal for a prescribed client and prescribed service;

determining a delivered quality of service for said selected quality of service goal;

determining if said delivered quality of service is different than said selected quality of service goal; and

if so, executing prescribed actions regarding network resources assigned to said client for said service, wherein said actions are intended to adjust said delivered quality of service toward being equal to said selected quality of service goal.

2. The method as defined in claim 1 wherein a system administrator specifies said quality of service goal without said system administrator having to specify said prescribed actions intended to enforce said quality of service goal.

3. The method as defined in claim 2 wherein said quality of service goal is a service level quality of service goal.

4. The method as defined in claim 3 wherein said step of determining said delivered quality of service includes a step of employing monitored states of network resources assigned to said client and said service to determine said delivered quality of service.

5. The method as defined in claim 3 wherein said step of determining if said delivered quality of service is different includes a step of determining if said delivered quality of service exceeds said selected quality of service goal and, if so, said step of executing includes steps of determining and executing a set of actions to reduce network resources assigned to said client and said service of said selected quality of service goal.

6. The method as defined in claim 5 further including a step of reporting to said system administrator said set of actions.

7. The method as defined in claim 5 further including a step of reporting to said system administrator results of executing said actions.

8. The method as defined in claim 3 wherein said step of determining if said delivered quality of service is different includes a step of determining if said delivered

3 quality of service is worse than said selected quality of service goal and, if so, said step of
4 executing includes steps of determining and executing a set of actions to increase
5 network resources assigned to said client and said service of said selected quality of
6 service goal.

1 9. The method as defined in claim 8 further including a step of reporting to said
2 system administrator said set of actions.

1 10. The method as defined in claim 9 further including a step of reporting to said
2 system administrator results of executing said actions.

1 11. The method as defined in claim 1 further including the steps of storing said
2 selected quality of service goals and determining whether said stored quality of service
3 goals should be updated.

1 12. The method as defined in claim 11 further including a step of updating said
2 stored quality of service goals.

1 13. The method as defined in claim 12 wherein each of said quality of service
2 goals is a service level quality of service goal.

1 14. The method as defined in claim 13 wherein said step of updating includes
2 steps of adding a service level quality of service goal to said stored quality of service
3 goals, redefining a stored service level quality of service goal or removing a stored
4 service level quality of service goal.

1 15. The method as defined in claim 1 further including steps of monitoring a state
2 of each network resource in a set of network resources and storing said monitored states.

1 16. The method as defined in claim 15 further including a step of updating said
2 monitored state of each network resource in said set of said network resources.

1 17. The method as defined in claim 16 wherein said step of updating includes
2 steps of requesting an update of said state of each network resource in said set of network
3 resources, querying said state of each network resource in said set of network resources
4 and storing said updated state.

1 18. The method as defined in claim 15 wherein said step of monitoring further
2 includes steps of receiving a network event notification indicating a change in state of a
3 network resource and storing said indicated change of state of said network resource as
4 an update of the state of said network resource.

1 19. A method for use in a policy-based management system comprising the steps
2 of:

3 storing a set of service level quality of service goals;
4 storing monitored states of a set of network resources;
5 selecting a prescribed defined quality of service goal from said stored service
6 level quality of service goals for a prescribed client and prescribed service;
7 using said stored monitored states to determine a delivered quality of service for
8 said selected quality of service goal;
9 determining if said delivered quality of service is different than said selected
10 quality of service goal; and
11 if so, executing prescribed action regarding network resources assigned to said
12 client for said service to adjust said delivered quality of service toward being equal to
13 said selected quality of service goal.

1 20. The method as defined in claim 19 wherein said step of determining if said
2 delivered quality of service is different includes a step of determining if said delivered
3 quality of service exceeds said selected quality of service goal and, if so, said step of
4 executing includes steps of determining and executing a set of actions to reduce network
5 resources assigned to said client and said service of said selected quality of service goal.

1 21. The method as defined in claim 20 further including a step of reporting to
2 said system administrator said set of actions.

1 22. The method as defined in claim 21 further including a step of reporting to
2 said system administrator results of executing said actions.

1 23. The method as defined in claim 19 wherein said step of determining if said
2 delivered quality of service is different includes a step of determining if said delivered
3 quality of service is worse than said selected quality of service goal and, if so, said step of
4 executing includes steps of determining and executing a set of actions to increase
5 network resources assigned to said client and said service of said selected quality of
6 service goal.

1 24. The method as defined in claim 23 further including a step of reporting to
2 said system administrator said set of actions.

1 25. The method as defined in claim 24 further including a step of reporting to
2 said system administrator results of executing said actions.

1 26. Apparatus for use in a policy-based management system comprising:
2 means for selecting a prescribed quality of service goal for a prescribed client and
3 prescribed service;

4 means for determining a delivered quality of service for said selected quality of
5 service goal;

6 means for determining if said delivered quality of service is different than said
7 selected quality of service goal; and

8 means, responsive to said delivered quality of service being different, for
9 executing prescribed actions regarding network resources assigned to said client for said
10 service, wherein said actions are intended to adjust said delivered quality of service
11 toward being equal to said selected quality of service goal.

1 27. The apparatus as defined in claim 26 wherein a system administrator specifies
2 said quality of service goal without said system administrator having to specify said
3 prescribed actions intended to enforce said quality of service goal.

1 28. The apparatus as defined in claim 27 wherein said quality of service goal is a
2 service level quality of service goal.

1 29. The apparatus as defined in claim 28 wherein said means for determining said
2 delivered quality of service includes means for employing monitored states of network
3 resources assigned to said client and said service to determine said delivered quality of
4 service.

1 30. The apparatus as defined in claim 28 wherein said means for determining if
2 said delivered quality of service is different includes means for determining if said
3 delivered quality of service exceeds said selected quality of service goal and means for
4 determining and executing a set of actions to reduce network resources assigned to said
5 client and said service of said selected quality of service goal.

1 31. The apparatus as defined in claim 30 further including a step of reporting to
2 said system administrator said set of actions.

1 32. The apparatus as defined in claim 30 further including a step of reporting to
2 said system administrator results of executing said actions.

1 33. The apparatus as defined in claim 28 wherein said means for determining if
2 said delivered quality of service is different includes means for determining if said
3 delivered quality of service is worse than said selected quality of service goal and means
4 for determining and executing a set of actions to increase network resources assigned to
5 said client and said service of said selected quality of service goal.

1 34. The apparatus as defined in claim 33 further including a step of reporting to
2 said system administrator said set of actions.

1 35. The apparatus as defined in claim 33 further including a step of reporting to
2 said system administrator results of executing said actions.

36. Apparatus for use in a policy-based management system comprising:
1 means for storing a set of service level quality of service goals;
2 means for storing monitored states of a set of network resources;
3 means for selecting a prescribed defined quality of service goal from said stored
4 service level quality of service goals for a prescribed client and prescribed service;
5 means for using said stored monitored states to determine a delivered quality of
6 service for said selected quality of service goal;
7 means for determining if said delivered quality of service is different than said
8 selected quality of service goal; and
9 means, responsive to said delivered quality of service being different, for
10 executing prescribed actions regarding network resources assigned to said client for said
11 service, wherein said actions are intended to adjust said delivered quality of service
12 toward being equal to said selected quality of service goal.
13

1 37. The apparatus as defined in claim 36 wherein said means for determining if
2 said delivered quality of service is different includes means for determining if said
3 delivered quality of service exceeds said selected quality of service goal and means for
4 determining and executing a set of actions to reduce network resources assigned to said
5 client and said service of said selected quality of service goal.

1 38. The apparatus as defined in claim 37 further including a step of reporting to
2 said system administrator said set of actions.

1 39. The apparatus as defined in claim 37 further including a step of reporting to
2 said system administrator results of executing said actions.

1 40. The apparatus as defined in claim 36 wherein said means for determining if
2 said delivered quality of service is different includes means for determining if said
3 delivered quality of service is worse than said selected quality of service goal and means
4 for determining and executing a set of actions to increase network resources assigned to
5 said client and said service of said selected quality of service goal.

1 41. The apparatus as defined in claim 40 further including a step of reporting to
2 said system administrator said set of actions.

1 42. The apparatus as defined in claim 40 further including a step of reporting to
2 said system administrator results of executing said actions.